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10/565,026

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Andrew Nicholas Dames

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EXAMINER

MAYE, AYUB A

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/565,026 | Applicant(s) DAMES, ANDREW NICHOLAS | |
| | Examiner AYUB MAYE | Art Unit 3742 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-42 is/are pending in the application.
- 4a) Of the above claim(s) 1-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 22-42 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/20/06</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 22-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Oosterwijk et al (WO 98/47035).

For claim 22, Oosterwijk teaches that an optical element positioning arrangement, comprising a reflective optical element (22 and 32 as shown in fig.1), actuators (7 as shown in fig.3), flexures (5 as shown in fig.3) located between the actuators (7 as shown in fig.3) and said optical element (2 as shown in fig.3), whereby when a first actuator (7 as shown in fig.3) is actuated any displacement generated is transmitted via a flexure (5 as shown in fig.3) to said optical element (2 as shown in fig.3) and provided that a second actuator's displacement differs from the displacement of said first, said optical element is caused to swing, wherein said actuators (7 as shown in fig.3) are spaced relative to one another and placed substantially parallel to one another.

For claim 23, Oosterwijk teaches that an optical element positioning arrangement (fig.1), comprising an optical element (2 as shown in fig.3), at least two actuators (7 as shown in fig.3) acting in the Z direction, at least two flexures (5 as shown in fig.3) located between at least two actuators (7 as shown in fig.3) and said optical element (2

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as shown in fig.3), whereby when a first actuator (7 as shown in fig.3) is actuated any displacement generated is transmitted via a flexure to said optical element (2 as shown in fig.3) and provided that a second actuator's displacement differs from the displacement of said first, said optical element (2 as shown in fig.3) is caused to swing; wherein said actuators (7 as shown in fig.3) are spaced one relative to another and said flexures (5 as shown in fig.3) extending from said actuators (7 as shown in fig.3) are located inwards from the central axis of said actuators (7 as shown in fig.3), whereby the achievable swing is greater than when said flexures (5 as shown in fig.3) are located along the central axis.

For claim 24, Oosterwijk teaches that an optical element positioning arrangement (fig.1), comprising an optical element (2 as shown in fig.3), actuators acting in the Z direction, flexures (5 as shown in fig.3) located between the actuators (7 as shown in fig.3) and said optical element (2 as shown in fig.3), whereby when a first actuator (7 as shown in fig.3) is actuated any displacement generated is transmitted via a flexure to said optical element and provided that a second actuator's (7 as shown in fig.3) displacement differs from the displacement of said first, the optical element (2 as shown in fig.3) is caused to swing; wherein the arrangement employs two actuators only (7 as shown in fig.3).

For claim 25, Oosterwijk teaches that an optical element positioning arrangement (fig.1), comprising an optical element (2 as shown in fig.3), actuators (7 as shown in fig.3) acting in the Z direction, flexures (5 as shown in fig.3) located between the actuators and said optical element (2 as shown in fig.3), whereby when a first actuator

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(7 as shown in fig.3) is actuated any displacement generated is transmitted via a flexure (5 as shown in fig.3) to said optical element (2 as shown in fig.3) and provided that a second actuator's displacement differs from the displacement of said first, said optical (2 as shown in fig.3) element is caused to swing; wherein the actuators (7 as shown in fig.3) are of rectangular cross-section.

For claim 26, Oosterwijk teaches that an optical element positioning arrangement (fig.1), comprising an optical element (2 as shown in fig.3), actuators (7 as shown in fig.3), flexures (5 as shown in fig.3) located between the actuators (7 as shown in fig.3) and said optical element (2 as shown in fig.3), whereby when a first actuator (7 as shown in fig.3) is actuated any displacement generated is transmitted via a flexure (5 as shown in fig.3) to said optical element and provided that a second actuator's (7 as shown in fig.3) displacement differs from the displacement of said first, the optical element is caused to swing, wherein the arrangement incorporates a display unit and said optical element (2 as shown in fig.3) projects a beam onto said display unit (26 as shown in fig.1).

For claim 27, Oosterwijk teaches that a laser marking system (20 as shown in fig.1), comprising an optical element (2 as shown in fig.3) for directing the light beam used for marking a substrate (26 as shown in fig.1); and an actuator (7 as shown in fig.3) for displacing the optical element; wherein the system comprises a connection between said actuator (7 as shown in fig.3) and said optical element to transmit movement from said actuator to said optical element (2 as shown in fig.3) and a flexure

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(5 as shown in fig.3) for supporting the optical element whereby when an actuator is actuated the optical element is caused to swing.

For claim 28, Oosterwijk teaches that wherein the optical element (2 as shown in fig.3) directs light onto a divergent lens (106 and 107 as shown in fig.7) located between the substrate (26 as shown in fig.1) to be marked and the optical element (2 as shown in fig.3). For claim 29, Oosterwijk teaches that wherein the optical element (2 as shown in fig.3) directs light onto a convergent lens (106 and 107 as shown in fig.7) located between the substrate (26 as shown in fig.1) to be marked and the optical element. For claim 30, Oosterwijk teaches that a post-spot camera for monitoring the marking and means for comparing the values obtained by the camera with pre-determined levels and adjusting the marking parameters if necessary (page 5, lines 1-20) examiner notes CCD is type of camera sensor. For claim 31, Oosterwijk teaches that a photo-detector set to monitor the marking (page 5, lines 1-10). For claim 32, Oosterwijk teaches that means for measuring the marking distance and adjusting the marking parameters of the system in accordance with the distance (page 5, lines 1-20). For claim 33, Oosterwijk teaches that means for measuring the relative values of combustion light and beam power (page 5, lines 1-20).

For claim 34, Oosterwijk teaches that an arrangement of claim 1 (fig.1 and 3). For claim 35, Oosterwijk teaches that wherein the actuator incorporates no galvanometer (7 as shown in fig.3). For claim 36, Oosterwijk teaches that wherein the actuator is a monolithic 2D actuator (page 1, lines 19-20) (7 as shown in fig.7). For claim 37, Oosterwijk teaches that wherein the actuator (7 as shown in fig.3) is

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connected to the optical element via a flexure (page 4, lines 1-12). For claim 38, Oosterwijk teaches that a first optical element (22 and 32 as shown in fig.1) positioning arrangement using piezoelectric actuation (7 as shown in fig.3) to displace a first optical element in a first one dimensional direction and a second optical element (22 and 32 as shown in fig.1) positioning arrangement using piezoelectric actuation (7 as shown in fig.3) to displace a second optical element in a second one dimensional direction, the first and the second arrangement being arranged in series. For claim 39, Oosterwijk teaches that an optical element (2 as shown in fig.3) positioning arrangement using piezoelectric actuators (7 as shown in fig.3) for displacing the element in two dimensions. For claim 40, Oosterwijk teaches that wherein the actuator is a thermoelectric actuator (page 4, lines 1-20). For claim 41, Oosterwijk teaches that means for changing scanning speed in order to provide gaps in between characters (page 5, lines 1-20). For claim 42, Oosterwijk teaches that a fiber laser incorporating a fiber for transmitting light onto an optical element for directing the light onto a reflector equipped with means for positioning said reflector in order to direct light onto a substrate to be marked (20 as shown in fig.1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AYUB MAYE whose telephone number is (571)270-5037. The examiner can normally be reached on 9-6.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Ba Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A.M.

/Ayub Maye/

05/01/09

Examiner, Art Unit 3742

/TU B HOANG/

Supervisory Patent Examiner, Art Unit 3742